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ABSTRACT

This study was undertaken to investigate the knowledge and attitudes of 8th, 9th, and 10th grade Kansas students pertaining to human immunodeficiency virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). Attitudes and knowledge of 9th and 10th grade students who had participated in a Sex Respect Class offered in the 9th grade were compared to those of 8th, 9th, and 10th grade students who had not participated in the class (total N=368). All students completed a demographic questionnaire and the Assessment Instruments for Measuring Student Outcomes. The scores from the subscales of Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes were employed as dependent variables. Fourteen of 36 main effect comparisons and 2 of 36 interactions were statistically significant at the .05 level. Students who participated in the Sex Respect Class reported a more desirable attitude about condom use than did nonparticipants. Of class participants, those with above average grade points reported more knowledge of HIV/AIDS, a higher level of confidence concerning knowledge of HIV/AIDS, and a more desirable attitude about abstinence concerning HIV/AIDS than did participants with average grade point. Female participants reported a more desirable attitude toward people with HIV/AIDS, a more desirable attitude about peer pressure concerning HIV/AIDS, a more desirable attitude about abstinence concerning HIV/AIDS, and a more desirable attitude toward HIV/AIDS than did male students. (Instruments are appended; contains 31 references.) (NB)

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ED 360 575

THE EFFECTS OF A KANSAS EDUCATION CLASS ON STUDENTS' KNOWLEDGE AND ATTITUDES OF HUMAN IMMUNODEFICIENCY VIRUS AND ACQUIRED IMMUNODEFICIENCY SYNDROME

being

A Thesis Presented to the Graduate Faculty
of the Fort Hays State University in
Partial fulfillment of the Requirements for
the Degree of Master of Science

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Graduate Committee Approval

The Graduate Committee of R. Warren Sager, Jr. hereby approves his thesis as meeting partial fulfillment of the requirements for the Degree of Master of Science.

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The author wishes to dedicate this thesis to his loving wife, Deloris; to his daughter, Cherri; to his son, Rob and his fiancée, Jennifer; and to his parents, Robert, Sr. and Dorothy.

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Abstract

The purpose of the researcher was to investigate the knowledge and attitudes of 8th, 9th, and 10th grade students pertaining to HIV/AIDS. A total sample of 368 students was taken from the 8th, 9th and 10th grades of a southeastern Kansas school system. The following independent variables were investigated: participation in the Sex Respect class, gender, classification, and grade point average. The dependent variables were scores of the subscales assessing; Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes. Two composite null hypotheses were tested at the .05 level of significance. A one-way analysis of variance was employed for composite null hypothesis number one. A three-way analysis of variance (general linear model) was employed for composite null hypothesis number two. A total of seventy-two comparisons were made. Of the 72 comparisons 36 were for main effects and 36 were for interactions. Of the 36 main effect comparisons, 14 were statistically significant at the .05 level. Of the 36 interactions, 2 were statistically significant at the .05 level. The results of the present study appeared to support the following generalizations:

1) students who participated in the Sex Respect class reported a more desirable attitude about condom use than students who did not participate in the class regardless

of classification;

2) students who participated in the Sex Respect class with an above average grade point reported more knowledge of HIV/AIDS, a higher level of confidence concerning knowledge of HIV/AIDS, and a more desirable attitude about abstinence concerning HIV/AIDS than students with an average grade point;

3) female students who participated in the Sex Respect class reported a more desirable attitude toward people with HIV/AIDS, a more desirable attitude about peer pressure concerning HIV/AIDS, and more desirable attitude about abstinence concerning HIV/AIDS, and a more desirable attitude toward HIV/AIDS than male students;

4) students who participated in the Sex Respect class with an above average grade point reported a more desirable attitude about peer pressure concerning HIV/AIDS, a more desirable attitude about condom use concerning HIV/AIDS, and a more desirable attitude toward HIV/AIDS than students with a below average grade point; and

5) ninth grade students who participated in the Sex Respect class had a more desirable attitude about abstinence than 10th-grade students;

Introduction

Overview

As of July 1990, 40% of the AIDS cases in the United States among 13 to 19-year-olds resulted from sexual transmission, 11% reported histories of intravenous (IV) drug use, and 4% reported both risk behaviors. National surveys reported increased rates of sexual intercourse among 17 to 19-year-olds from 65.7% in 1979 to 75.5% in 1988. A 1989 nationwide survey revealed that 58.5% of 9th through 12th-grade students had had sexual intercourse with 23.3% reporting that they had never used a condom (Holtzman, Anderson, Kann, Arday, Truman & Kolbe, 1991). The high risk behaviors of students continue to be a concern for health educators and health agencies.

Overview of HIV/AIDS

Acquired Immune Deficiency Syndrome (AIDS) was first identified in the United States in the late 1970's. By 1981, there were 266 people identified with AIDS (Centers for Disease Control [CDC], 1992a). It was estimated that between one and two million people in the United States are infected with the HIV-virus and an estimated five to ten million world wide. Approximately 10 to 30 percent of those infected with the HIV-virus progress to develop AIDS (Edwards & Others, 1987). Over 70% of the HIV-infected people develop either AIDS

or an AIDS-related complex (ARC). There have been no recorded cases of anyone recovering from a diagnosed case of AIDS (North Carolina, 1987). Regardless of whether the symptoms of AIDS are apparent, anyone who is infected with the HIV/AIDS-virus must be presumed to be capable of transmitting the virus to someone else (United States, 1988).

Every state in the United States has reported cases of AIDS with one out of every five being diagnosed between the ages of 20 to 29-years-old (CDC, Commonly). The term "epidemic" has been applied to the HIV/AIDS situation by the leading health agencies in the United States. The physical and emotional losses along with the social and economic consequences have grave consequences for our society.

AIDS is a disease that attacks the body's immune system. The etiological agent believed to cause AIDS is the human immunodeficiency virus or HIV. The HIV-virus diminishes the ability of the body's immune system to protect against disease. Because of the weakened immune system, a disease may attack the nervous system resulting in damage to the brain, cause a wide range of chronic symptoms, i.e., fever, night sweats, diarrhea, weight loss, fatigue, swollen lymph glands, and skin rashes. Neurologic disorders such as memory loss, dementia, partial paralysis, and loss of coordination

also may result from a weakened immune system (Edwards et al., 1987).

The primary means of transmission of the HIV-virus is through exposure to infected blood, the sharing of infected intravenous drug needles, sexual contact, and through an infected mother to her fetus or infant (Hales & McGrew, 1991). A small amount of the HIV-virus has been found in saliva and tears. Scientists have discovered traces of the HIV-virus among insects in some countries in central Africa (Edwards et al., 1987). There have been no reported cases of the virus being passed through these fluids. No cases have been established where AIDS has been passed through casual contact. People can work with others, use public toilets and swimming pools, eat at restaurants and attend public events without getting the HIV-virus. Children with HIV-virus infection pose no risk for other students in the school setting (United States, 1988).

Over 50% of the persons with AIDS have died. The most common illnesses of persons with AIDS are lung infection called Pneumocystis Carinii Pneumonia (PCP) and a cancer, Kaposi's sarcoma (KS). In most instances a person infected with the HIV-virus also must have PCP, KS, or other serious conditions to be classified as having AIDS. Other factors that may weaken the immune system include; other infections, alcohol or drug abuse,

poor nutrition, physical stress, or other physical illnesses (Edwards et al, 1987).

The test to detect the HIV antibody was first licensed by the Food and Drug Administration in 1985. The predictive values of both positive and negative test results of HIV antibody are 99% effective (CDC, 1988a). It is important for physicians and health-care providers to counsel persons about the significance of the test results and the potential pitfalls of the testing process. Most positive tests for the HIV-virus are repeated, sometimes up to three times, before a person is informed of the positive test results. The chance of a positive test for a person that does not contain the HIV/AIDS antibodies, called a false positive, will be reduced by this process. A person who tests negative when there are antibodies present is called a false negative. These cases are very rare although persons tested soon after contacting the virus are more likely to have a false negative test. As with all medical tests, results are best interpreted in conjunction with all historic, epidemiologic, clinical, and other pertinent laboratory information available. If a person is not at risk for getting the HIV-virus, there is little need to take the test (Edwards et al, 1987).

In the United States, about 61% of the HIV/AIDS cases are among Whites, 25% among Blacks and 14% among

Hispanics. Over 90% of the AIDS cases are manifested in four major groups: homosexual and bisexual men (74%), heterosexual IV drug abusers (17%), heterosexual sex partners of persons with HIV/AIDS or at risk for AIDS (4%) and about 3% from recipients of transfused blood or blood-clotting factor (Edwards et al, 1987). Children with HIV/AIDS comprise about 1% of the cases with the majority of them contacting the virus from the infected mother during pregnancy or childbirth (United States, 1988). The results of one study (CDC, 1991) showed that 77% of the children under the age of 13 who had AIDS (565 cases) contacted the disease from an AIDS infected mother during birth.

As of September 30, 1991, 195,718 cases of AIDS had been reported to the Centers for Disease Control. Of these cases, 0.4% or 659 were among 13 to 19-year-olds, and 20.0% or 33,568 were among 20 to 29-year-olds (Kann, Anderson, Holtzman, Ross, Truman, Collins & Kolbe, 1991). Because the median incubation period is ten years (CDC, 1991), it can be assumed that many of the 20 to 29-year-olds were infected during their adolescent years. AIDS ranked as the sixth leading cause of death among 15 to 24-year-olds (CDC, 1993b).

Since the 1970's sexual activity has increased among adolescents in the United States (CDC, 1991). The median age of reported first intercourse was 16.1 years

(95% confidence interval) for male students and 16.9 years for female students (CDC, 1992a). Approximately one million adolescent girls become pregnant each year and 86% of all sexually transmitted diseases occur among persons aged 15 to 29-years-old (CDC, 1991).

The fight against AIDS must include three fundamental goals in order for people to be equipped to deal with the HIV/AIDS disease. The first goal is to find a cure and vaccine for the virus. The second goal is to care for the victims of the disease, and the final goal is to develop routine testing and effective education to protect the public health (CDC, 1992a). Young adolescents need to know that most cases of HIV/AIDS result from behavior that can be avoided.

National Surveys of Knowledge and Attitudes

In 1987, the Centers for Disease Control began to assist state and local departments of education in assessing human immunodeficiency virus (HIV) related beliefs, knowledge, and behaviors among high school students in states and cities with the highest incidence of the HIV/AIDS infection (CDC, 1988c). In order to do a better job of instructing and modifying improper behavior, it was necessary to develop an instrument to evaluate the behaviors that needed to be modified and develop effective interventions to modify these inappropriate behaviors.

The Secondary School Student Health Risk Survey (SSSHRS) was the first survey to measure HIV related knowledge, beliefs and behaviors of 9th through 12th-grade students in the United States (Kann et al, 1991). The sample of 8,098 students described HIV-related knowledge and beliefs of U.S. high school students and the prevalence of sexual intercourse and IV drug use comparing gender, grade and ethnicity differences. Results of the study can be generalized to the population of 9th through 12th-grade students. Although 95% of the students maintained that they should receive their knowledge about HIV/AIDS through education, in actuality only 54% reported having been taught in their schools. Three other surveys: the National Survey of Family Growth (NSFG)-Cycle III and Cycle IV, The Planned Parenthood Poll, and the National Survey of Adolescent Males (NSAM) have also measured HIV-related sexual behaviors of adolescents in the United States with similar results (Kann et al, 1991). The Centers for Disease Control conducted its own survey in 1987. The instrument contained 45 questions to assess HIV-related knowledge, beliefs, and behaviors. The survey was given to sample sizes from 778 to 7013 of 9th through 12th-grade students in the cities of Chicago, Los Angeles, New Orleans, New York City, San Francisco, and Seattle. Students reported they should be taught about AIDS in

school (89% to 96.8%). The correct responses to student knowledge of the ways the HIV-virus could not be transmitted included: through shaking hands, 85.5% to 95.6%; through giving blood, 27.8% to 53.3%; from mosquito or other insect bites, 28.9% to 46.8%; from using public toilets, 41.8% to 64.6%; and from having a blood test, 49.6% to 75.4% (CDC, 1988c).

The results of a 1989 national survey (Holzman et al., 1991) showed the vast majority of students (97.7%) knew that HIV/AIDS could be transmitted by sexual intercourse, 98.9% by sharing needles, and 90.7% perinatally. There still, however, were some misconceptions dealing with the transmission of the HIV/AIDS infection. Only 64% knew that the virus could not be transmitted by donating blood, and only 45.1% knew the virus could not be transmitted by insect bites (Holzman et al., 1991). A study conducted by Price, Desmond, and Kukulka (1985) reported students answering less than 50% of the questions concerning HIV/AIDS knowledge correctly. Despite the increased knowledge of HIV/AIDS, there remains a significant number of people in our population that are vulnerable to contacting the disease.

The disturbing fact is that despite the students' high level of knowledge of the HIV/AIDS infection, 54.2% of the students grades 9 through 12 reported

having sexual intercourse. Male students were significantly more likely than female students (60.8% to 48.0%) to have sexual intercourse. Black students were significantly more likely than white or Hispanic students (72.3%, 51.6%, 53.4%) to be more sexually active. Of the sexually active students, 77.7% of the females and 77.8% of the males used a contraceptive. White students were more likely to use condoms than Black and Hispanic students [81.1%, 71.4%, 62.6% (CDC, 1991)].

Regional Surveys of Knowledge and Attitudes

In comparing state and local surveys from Colorado, Nebraska, Illinois, Minnesota, and Kansas within the Central region of the United States, results were consistent with recent national surveys concerning knowledge, attitudes, and beliefs about the HIV/AIDS infection. A 1989 random survey of selected Colorado students, excluding the Denver Public Schools, in grades 9 through 12 revealed that Colorado students exhibited a high level of knowledge of the major means of transmission; sharing needles used to inject drugs (99%), unprotected sexual intercourse (93%), and a pregnant woman infecting her fetus (90%). Ninety-one percent of the students knew that there was no cure for the virus (Colorado State, 1989).

Students knew that a person will not get infected

with the HIV/AIDS infection from using public toilets (83%) and from being in the same class with a student (94%). Ninety percent knew that they could not reduce the risk of contacting the HIV-virus by using birth control pills. Students continued to report misconceptions about HIV/AIDS infection: 30% maintained they could get the virus from having a blood test; 48% thought they could get the virus from donating blood; and 54% thought they could get the virus from being bitten by mosquitos or other insects (Colorado State, 1989).

The survey reported 60% of the students being taught about HIV/AIDS in the schools. Sixty-five percent of the students reported that they would go to class with HIV/AIDS infected persons and 60% maintained that the infected persons could attend their school. Over 58% of the students reported having sexual intercourse with at least one partner. Sexual activity was more prevalent in males than females (64% to 54%), and more prevalent in 17 and 18-year-olds than 15 and 16-year-olds (72% to 49%) [Colorado State, 1989].

In Nebraska, 90.5% of the students recounted they should be taught about HIV/AIDS infection in the school with only 51.8% reporting that they had been taught in the school. The 1988 National Adolescent Student Health Survey (NASHS) reported 98% of the students knew you

could get HIV/AIDS through sexual intercourse and 89.2% knew a pregnant woman with HIV/AIDS could infect her child. Of the students, 86.9% reported they knew how to keep from getting AIDS, 90% knew you could reduce the chance of getting HIV/AIDS by abstaining from sexual intercourse, and 92.4% knew you could reduce the risk by using a condom (Newman, 1990).

Students also reported misconceptions pertaining to the transmission of the HIV-virus; by a mosquito (16%, 31% unsure), from a blood test (11%, 15.5% unsure), and from donating blood (29.2%, 10.9% unsure). Male students showed a marked difference from female students concerning their attitude of being in the same classroom with a student with HIV/AIDS. An overall percentage of less than 50% of the males were comfortable with HIV/AIDS students in their class as compared to an average of over 70% for females. Less than half of the students had talked to their parents about HIV/AIDS. Of the students surveyed, 57% reported having sexual intercourse at least once with 42.4% of the active participants having sexual intercourse before the age of 15. Students in the higher grades, who tended to be more sexually active, were less likely to use a condom (Newman, 1990).

In a survey conducted in Illinois, nearly all ninth graders knew the two major means of transmitting the

HIV-virus was through sexual intercourse and the sharing of needles with persons with the HIV-virus (98%, 99%). They also had a reasonable knowledge about the methods of prevention such as; abstinence, sex with one partner, the avoidance of sex with IV drug users, and the use of condoms (Illinois State, 1990).

Misconceptions remain pertaining to the transmission of the HIV-virus, especially in the area of blood donations, blood tests and blood transfusions. Sixty-three percent of the students knew where to get information about HIV/AIDS, and 50% knew where they could be tested (Illinois State, 1990).

An AIDS information inventory was administered to a random sample of 182 high school students in Minnesota to measure four major categories; Basic Facts, Transmission, Effects, and Social Implications. Students were well informed in the knowledge of HIV/AIDS. Three areas of misconception were reported by the students from the result of the survey. The first misconception was that condom use would eliminate the risk of contacting the HIV-virus as opposed to reducing the risk. The second misconception pertained to the transmission of the HIV-virus. Some students reported the HIV-virus could be transmitted by social kissing and donating blood. The third misconception pertained to HIV/AIDS victims attending a public school. Students

had assumed that the HIV-virus had been transmitted in a school setting. There have not been any cases documented of the HIV-virus being transmitted within the school setting (McCoy & Calvin, 1989).

The results from 1,101 students in Kansas responding to the knowledge of known risk factors of the HIV-virus were IV drug use (98.5%) and sexual intercourse without using a condom (92.2%). These percentages are higher compared to the national medians of 98% and 88% respectively. Kansas' students, when asked questions of non-risk factors as ways of contacting HIV/AIDS, responded: giving blood, 64.7% (national median: 58%); insect bites, 58.0% (national median: 48%); using public toilets, 80.1% (national median: 73%); and having a blood test, 72.8% (national median: 73%) [CDC, 1990].

Results of the national and state surveys reveal that there are several areas of misconception that can be addressed through education. There is the misconception that condom use would eliminate the risk of contacting the HIV-virus as opposed to reducing the risk of infection. The misconceptions that the HIV-virus could be transmitted through social kissing and donating blood are evident. The misconceptions that the HIV-virus can be spread by insects and that the HIV-virus could be transmitted in the school setting are a

concern of students. These misconceptions should be included within the HIV/AIDS curriculum.

Development of HIV/AIDS Education

The Division of Adolescent and School Health (DASH) was established by the Center for Disease Control in 1988 to serve four functions: first, identify the significant health risks among youth; second, to monitor the incidence and prevalence of those risks; third, to develop national programs to prevent those risks; and fourth, to evaluate and improve the risk prevention programs. The important issue to be acted upon is that the HIV/AIDS disease can be attributed to behavior that could be controlled (Kolbe, 1990).

The Youth Risk Behavior Surveillance System (YRBSS) was developed in 1989 to provide information for researchers to formulate an educational plan of action. As of March, 1990, 26 states and 11 major cities had obtained clearance to use all or part of the YRBSS survey instrument (Kolbe, 1990). The Council of Chief State School Officers and the National Association of State Boards of Education HIV/AIDS Education Survey conducted in the Spring of 1990, revealed that 66% of all school districts required HIV education during the 1988-89 school year. Most districts began their education prior to the seventh grade with few offering it at every grade level, and less than 15% offering it

in the 11th and 12th grades when the students are most sexually active (Kann et al, 1991).

The percentage of students who received HIV/AIDS instruction in the school increased from 54% to 83% in the years 1989 to 1991 (CDC, 1992c). The fact remains that the national health objectives are not being met. The objectives to reduce the proportion of adolescents who have engaged in sexual intercourse are not being met. Those objectives to increase the use of condoms during last sexual intercourse among sexually active adolescents (CDC, 1992b), fell below the targeted percentage of compliance as suggested by the national year 2000 guidelines (CDC, 1993b).

According to the CDC (1988b), the specific scope and content of an AIDS education program should be determined through local participation of health-care workers, school boards, parents and other interested leaders. The first step in developing a program is to formulate a school policy that reflects the community's understanding of the disease. Plans should be developed to deal with questions about AIDS from early elementary children as well as providing a more comprehensive health program for the late elementary, middle school and high school population. The most appropriate and effective education seems to occur between the seventh and ninth grades (CDC, 1988b).

State departments of education and health are able to provide much needed assistance in the planning of these programs including the necessary training for AIDS educators. The principle purpose of the AIDS education program is to prevent HIV infection. In order for the program to be effective, it should: "Help children develop clear standards of right and wrong; set a good example; help children resist social pressures to engage in dangerous activities; and to instruct children about the facts of HIV/AIDS" (Williams & Shepard, 1988).

Development of HIV/AIDS Education in Kansas

Kansas was used in this study as an example of how states may address the education of their students. The first case of AIDS in Kansas was documented in 1981, and it was not until 1987 that Governor Mike Hayden commissioned the Governor's Task Force on AIDS to develop the following objectives (Kansas Department, 1987):

The charge to the committee was to:

1. Develop a uniform policy from the current and existing information on AIDS within the states' various departments.
2. Develop state guidelines based on factual information concerning the transmission and prevention of AIDS.
3. Develop a state educational policy, in

conjunction with the Department of Education and Board of Regents, that addresses knowledge, prevention, and treatment of AIDS.

4. Develop a set of recommendations to the solution of the social problems and forward these recommendations to the state legislature for implementation (Kansas Department, 1987).

The committee developed 11 objectives of which 7 are being presently met. From the committee's recommendations, the Seven Point AIDS/HIV Prevention and Intervention Plan was created to address the needs of the people of the state of Kansas. Education is one of the seven points that was outlined by the committee (Kansas Department, 1987).

The educational goals were to: provide HIV/AIDS health education activities statewide; promote the utilization of counseling and proper testing; provide up-to-date, accurate information; provide technical consultation, training, and financial assistance to concerned organizations; and provide consultation and training for statewide organizations. Yearly objectives were formulated to provide a systematic course of action for HIV/AIDS prevention and intervention. In response to knowledge gained from surveys and changing epidemiological trends, the plan is updated annually to chart the progress of the Kansas AIDS Program and

develop new goals and objectives (Kansas Department, 1987).

School districts in Kansas were reluctant to participate in the 1990 Youth Risk Behavior Survey conducted by the Centers for Disease Control . The response rate from Kansas school districts surveyed was 30% (Kansas State, 1990). According to Laura Kann, Chief of the Surveillance Research Section for DASH:

> Though probability sampling of districts and schools was used, unavailable documentation of class-level sampling procedures and the low overall response rate precluded weighting of the data to reflect the fact that not all surveyed students were sampled with the same likelihood or to reduce bias by compensating for differing patterns of nonresponse. The unweighted results may reflect selection and nonresponse bias. Generalization of the unweighted results to any other students in Kansas besides those completing the questionnaire should be made with caution and in light of this limitation (L. Kann, personal communication to J. Grosko, November 20, 1990).

Effectiveness of HIV/AIDS Education

A study by Preston & Others (1988) was conducted on

the effects of an education class on the knowledge and attitudes of students concerning HIV/AIDS. A survey of 676 Pennsylvania students concerning HIV/AIDS utilized the pretest, posttest method of evaluation. The posttest was given approximately two weeks after the HIV/AIDS education class was completed and revealed a significant increase in knowledge over the pretest.

Knowledge of HIV/AIDS continues to be an area of concern. There is a need for more information pertaining to student high risk behaviors and to facilitate curriculum development. The effectiveness of educational classes that address students' knowledge and attitudes toward HIV/AIDS are continuing to be evaluated and updated. Students indicate a willingness to learn about HIV/AIDS. The reluctance of local school districts in Kansas to address issues of HIV/AIDS through comprehensive education to all ages of children should be a concern to counselors, parents and educators.

Statement of the Problem

The purpose of the researcher was to investigate the knowledge and attitudes of 8th, 9th, and 10th grade students pertaining to HIV/AIDS of a school district in southeastern Kansas.

Rationale and Importance of the Study

At the present time, the cure for AIDS has not been found and the projections for the future are unclear. It is important for counseling majors to increase students', parents and educators' awareness of the modes of transmission of HIV/AIDS. Counseling majors also need to be cognizant of student attitudes that lead to high risk behaviors and address the behaviors that are likely to spread the disease. In order for education to provide factual and relevant information to students, research needs to examine adolescent behaviors and the reasons for their behaviors. A popular model for explaining health behavior is the Health Belief Model based on the postulate that people act according to their susceptibility to a particular disease (Zimet, 1991). Counselors, parents and health care workers need to be aware of the high risk behaviors students are engaging in that imperils puts our society. The results of this study could be used by counselors, administrators and teachers to develop an effective curriculum that addresses students' knowledge and attitudes toward HIV/AIDS.

The results from this present study provided information pertaining to the following questions:

1. Is there an association between knowledge, confidence, attitude toward people with

HIV/AIDS, and attitude toward HIV/AIDS according to the participation status of students who have taken the Sex Respect class and those that have not?

2. Is there an association between knowledge, confidence, attitude toward people with HIV/AIDS, and attitude toward HIV/AIDS according to the gender of students who have taken the Sex Respect class?
3. Is there an association between knowledge, confidence, attitude toward people with HIV/AIDS, and attitude toward HIV/AIDS according to the classification of students who have taken the Sex Respect class?
4. Is there an association between knowledge, confidence, attitude toward people with HIV/AIDS, and attitude toward HIV/AIDS according to the grade point average of students who have taken the Sex Respect class?

Composite Null Hypotheses

All null hypotheses were tested at the .05 level of significance.

1. The differences among the mean Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes scores for 8th, 9th, and 10th grade students

according to participation status in the Sex Respect class dealing with HIV/AIDS will not be statistically significant.

2. The differences among the mean Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes scores for 9th and 10th grade students who participated in the Sex Respect class dealing with HIV/AIDS according to gender, classification, and grade point average will not be statistically significant.

Independent Variables and Rationale

The independent variables investigated by the researcher in this study were participation in the Sex Respect class, gender, classification, and grade point average. The rationale for using these independent variables was: There are few studies conducted in the state of Kansas concerning HIV/AIDS, and they provide inconclusive results and may indicate a lack of concern for HIV/AIDS within the state.

Definition of Variables

Independent Variables

The information pertaining to the independent variables was obtained from the demographic instrument (Appendix A). The following independent variables were investigated:

1. Participation status in Sex respect class --

three levels;
level one, participation in class,
level two, non-participation in class, 8th graders, and
level three, non-participation in class, 9th and 10th graders;

2. gender -- two levels;
level one, male, and
level two, female;

3. classification -- two levels;
level one, 9th grade, and
level two, 10th grade; and

4. grade point average -- three levels;
level one, above average, (if the student made mostly A's and B's),
level two, average, (if the student made mostly C's), and
level three, below average, (if the student made mostly D's or below).

Dependent Variables

The dependent variables were obtained from the Assessment Instruments for Measuring Student Outcomes (Popham, Hall, Tonks, Hetrick & Grossman, 1992). Scores from the subscales assessing; Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes, were employed as dependent variables:

1. Knowing About HIV and AIDS, Form A (Appendix B), contained 15 items with a minimum score of 0 and a maximum score of 15,
2. Knowing About HIV and AIDS, Form B (Appendix B), contained 15 items with a minimum score of 0 and a maximum score of 15,
3. Confidence of Knowing About HIV and AIDS, Form A (Appendix B), contained 15 items with a minimum score of 15 and a maximum score of 75,
4. Confidence of Knowing About HIV and AIDS, Form B (Appendix B), contained 15 items with a minimum score of 15 and a maximum score of 75,
5. How Do You Feel toward people with HIV/AIDS (Appendix B) contained 10 items with a minimum score of 10 and a maximum score of 30,
6. Your Attitudes About Peer Pressure (Appendix B) contained 5 items with a minimum score of 5 and a maximum score of 25,
7. Your Attitudes About Abstinence (Appendix B) contained 5 items with a minimum score of 5 and a maximum score of 25,
8. Your Attitudes About Condom Use (Appendix B) contained 5 items with a minimum score of 5 and a maximum score of 25, and
9. Your Attitudes (total) Toward HIV/AIDS (Appendix B) contained 15 items with a minimum

score of 15 and a maximum score of 75.

Limitations

The following may have effected the results of this study:

1. subjects were not selected randomly,
2. subjects were limited to a single locality, and
3. all information was self-reported

Methodology

Setting

The researcher selected this southeastern Kansas school system (Appendix D) to conduct the study because a class (Sex Respect) dealing with the issues of HIV/AIDS knowledge and attitudes was offered in the 9th grade. The main sources of income for this community of over 8,000 people are from agriculture and industry. The economic status of the community is reflected in the fact that almost 42 percent of the students in the school district participated in the Federally funded free and reduced lunch program. The 8th grade students attended a middle school with over 520 students and the 9th and 10th grade students attended a high school with over 620 students.

Subjects

A total sample of 368 students was taken from the 8th, 9th and 10th grades of a southeastern Kansas school

system. The 8th grade had a class total of 169 with 134 students completing the instruments, 66 males and 68 females. The 9th grade had a class total of 158 with 120 students completing the instruments, 65 males and 55 females. The 10th grade had a class total of 177 with 114 students, 54 males and 60 females, completing the instruments. The subjects of the sample were divided into three groups according to participation status in the Sex Respect class and grade level. The following groups were created: 8th graders who did not participate in the Sex Respect Class; 9th and 10th graders who did not participate in the Sex Respect Class; and, 9th and 10th graders who did participate in the Sex Respect class.

Instruments

Two instruments were employed by the researcher. The demographic instrument (Appendix A) was prepared by the researcher after reviewing related literature. This instrument addressed the following independent variables; participation in the Sex Respect class, gender, classification, and grade point average. The Assessment Instruments for Measuring Student Outcomes (Popham et al., 1992) was the second instrument used (Appendix B). The scores from the subscales of Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes, were employed as dependent variables. This

instrument was prepared by IOX Assessment Associates under contract No. 200-88-0683 with the Division of Adolescent and School Health, Centers for Disease Control, Atlanta, GA. The preliminary draft was completed in May of 1992. This instrument was designed to be administered to 5th through 7th grades. The instrument was selected for this study because of local social and political sensitivity to the public's perception of HIV/AIDS.

The Assessment Instruments for Measuring Student Outcomes (Popham et al., 1992) was comprised of nine subscales using Likert-type ratings. The subscales were:

1. Knowing About HIV and AIDS, Form A (Appendix B), contained 15 items with a minimum score of 0 and a maximum score of 15, using a Likert-type scale, with values of 1 to 0,
2. Knowing About HIV and AIDS, Form B (Appendix B), contained 15 items with a minimum score of 0 and a maximum score of 15, using a Likert-type scale, with values of 1 to 0,
3. Confidence of Knowing About HIV and AIDS, Form A (Appendix B), contained 15 items with a minimum score of 15 and a maximum score of 75, using a Likert-type scale, with values of 5 to 1,

4. Confidence of Knowing About HIV and AIDS, Form B (Appendix B), contained 15 items with a minimum score of 15 and a maximum score of 75, using a Likert-type scale, with values of 5 to 1,
5. How Do You Feel toward people with HIV/AIDS (Appendix B) contained 10 items with a minimum score of 10 and a maximum score of 30, using a Likert-type scale, with values of 3 to 1,
6. Your Attitudes About Peer Pressure (Appendix B) contained 5 items with a minimum score of 5 and a maximum score of 25, using a Likert-type scale, with values of 5 to 1,
7. Your Attitudes About Abstinence (Appendix B) contained 5 items with a minimum score of 5 and a maximum score of 25, using a Likert-type scale, with values of 5 to 1,
8. Your Attitudes About Condom Use (Appendix B) contained 5 items with a minimum score of 5 and a maximum score of 25, using a Likert-type scale, with values of 5 to 1, and
9. Your Attitudes (total) Toward HIV/AIDS (Appendix B) contained 15 items with a minimum score of 15 and a maximum score of 75, using a Likert-type scale, with values of 5 to 1.

Scoring for subscales 1,2,3 and 4 was completed by

using two methods. Method one assigned 1 point for every affirmative question [questions 2,3,4,8,9,10,12 (form A)] and [3,4,7,9,10,12,15 (form B)] that was answered correctly; I am sure it's true or I think it's true. A score of 0 was given to responses of; I don't know, I think it's false or I am sure it's false. Inverse scoring was used for the negative questions [1,5,6,7,11,13,14,15 (form A)] and [1,2,5,6,8,11,13,14 (form B)]. The student's level of knowledge could range from a minimum score of 0 to a maximum 15 in each section. Scoring for subscales 1,2,3 and 4 using method two, was to assign values of 5,4,3,2,1 to the Likert-type scale for affirmative questions and invert the scoring for negative questions. The student's level of confidence could range from a minimum score of 15 to a maximum of 75 in each section (Popham et al., 1992).

Scoring for subscale 5 was to obtain a total score from adding the points from all of the questions. A Likert-type scale was scored as follows: completely comfortable = 3, somewhat comfortable = 2, not at all comfortable = 1. Students could obtain a maximum score of 30 that indicated a high acceptance of people with HIV/AIDS, or a minimum score of 15 that indicated a low acceptance of people with HIV/AIDS (Popham et al., 1992).

Scoring for subscales section 6,7,8 and 9 used a

Likert-type scale scoring affirmative questions (1,3,5,7,8,11,13,15) as: strongly agree = 5, agree = 4, not sure = 3, disagree = 2, and strongly disagree = 1. Inverse scoring was used for negative question (2,4,6,9,10,12,14). Scores obtained from subscales 6,7 and 8; Attitudes About Peer Pressure (questions 1,4,7,10,13), Attitudes About Abstinence (questions 2,5,8,11,14), and Attitudes About Condom Use (questions 3,6,9,12,15), range from a minimum of 5 to a maximum of 25. Scores from subscale 9, Your Attitude (total) Toward HIV/AIDS could range from a minimum score of 15 to a maximum of 75. Higher scores in subscales 6,7,8 and 9 generally reflect the student attitudes that are being sought by educational programs (Popham et al., 1992).

Design

A single factor and factorial design were employed. The independent variables investigated were: participation in the Sex Respect class, gender, classification, and grade point average. The dependent variables investigated were from nine subscales containing a sample size of 368 students who were divided into three groups: 8th graders who did not participate in the Sex Respect class; 9th and 10th graders who did not participate in the Sex Respect class; and, 9th and 10th graders who did participate in

the Sex Respect class. Two composite nulls were tested.

The designs used with each composite null hypothesis were as follows:

composite null hypothesis number one: single factor design, and

composite null hypothesis number two: a 2 X 2 X 3 factorial design.

McMillan and Schumacher (1984) identified 10 potential threats to internal validity. The 10 threats to internal validity were dealt with by the researcher in the present study as follows:

1. history -- did not pertain because data were collected only one time,
2. selection -- all students present participated and completed the instrument,
3. statistical regression -- did not pertain as the sample was not extreme,
4. testing -- did not pertain because data were collected only one time,
5. instrumentation -- did not pertain because data were collected only one time,
6. mortality -- did not pertain because data were collected only one time,
7. maturation -- did not pertain because data were collected only one time,
8. diffusion -- treatment was not provided by the

researcher,

9. experimenter bias -- data collection was not conducted by the researcher, uniform instructions (Appendix C) were read to all subjects, and
10. statistical conclusions -- two mathematical assumptions of the analysis of variance were violated; random sampling and cells did not have an equal number of subjects (the general linear model was used to adjust for the lack of equal number of subjects in cells), and interpretations were not projected beyond the statistical procedures employed.

McMillan and Schumacher (1984) identified two potential threats to external validity. The two threats to external validity were dealt with by the researcher in the present study as follows:

1. population external validity -- the sample was not random; therefore, generalization should be confined to similar groups, and
2. ecological external validity -- the researcher did not implement the treatment and the researcher did not collect the data.

Data Collecting Procedures

The principals of the middle school and high school were personally contacted after receiving formal

permission to conduct the research from the school district (Appendix E). It was decided by the researcher and the principals that the most valid results could be obtained by having teachers familiar to the students administer the instrument. Two teachers, who instructed classes that the majority of the students to be tested were participating in, were selected from each site. The teachers were given a set of instructions to read to the students concerning administration of the test (Appendix C). Students were assured of anonymity and confidentiality of individual responses. The researcher collected and scored all instruments and the Fort Hays State University computing center was utilized to analyze the data.

Research Procedures

The researcher employed the following global operations in this study:

1. selection of topic,
2. precursory review of related literature,
3. topic narrowed and defined,
4. search conducted of related literature using ERIC, Psychological Index, National AIDS Clearinghouse Reference Search, telephone queries to Kansas Department of Education, and telephone queries to Centers of Disease Control,

5. comprehensive review of related literature,
6. instrument selected,
7. data collected,
8. research proposal compiled,
9. research proposal defended,
10. data analyzed,
11. research report written,
12. research report defended, and
13. final editing of the document.

Data Analysis

The following were compiled:

1. appropriate descriptive statistics,
2. one-way analysis of variance,
3. three-way analysis of variance (general linear model),
4. Bonferroni (Dunn) *t* - test for means, and
5. Duncan's Multiple range test for means.

Results

The purpose of the researcher was to investigate the knowledge and attitudes of 8th, 9th, and 10th grade students pertaining to HIV/AIDS. The independent variables investigated were participation in the Sex Respect class, gender, classification, and grade point average. The dependent variables were scores of the subscales assessing; Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes. Two composite null hypotheses were tested at the .05 level of significance. Composite null hypothesis number one employed a one-way analysis of variance and composite null hypothesis number two employed a three-way analysis of variance (general linear model). The results section was organized according to composite null hypotheses for ease of reference. Information pertinent to each composite null hypothesis was presented in a common format for ease of comparison.

It was hypothesized in composite null hypothesis number one that the differences among the mean Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes scores for 8th, 9th, and 10th grade students according to participation status in the Sex Respect class dealing with HIV/AIDS would not be statistically significant. Information pertaining to composite null hypothesis number one was presented in Table 1. The

following information was cited in Table 1: variables, group sizes, means, standard deviations, F values, and p levels.

Table 1: A Comparison of Mean Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes Scores for 8th, 9th, and 10th Grade Students According to Participation Status in the Sex Respect Class Dealing with HIV/AIDS Employing a One-Way Analysis of Variance

Variable	n	M*	S	F Value	p Level
Knowing About HIV/AIDS (Form A) **					
Participation Status					
Participation in Class	216	13.0	1.91		
Non-Participation, 8th	134	12.7	1.96	1.31	.2722
Non-Participation, 9th & 10th	18	13.1	2.08		
Knowing About HIV/AIDS (Form B)					
Participation Status					
Participation in Class	216	13.2	2.05		
Non-Participation, 8th	134	13.1	2.16	1.19	.3061
Non-Participation, 9th & 10th	18	12.4	2.53		
Confidence of Knowing About HIV/AIDS (Form A)					
Participation Status					
Participation in Class	216	67.9	6.72		
Non-Participation, 8th	134	66.8	7.03	1.16	.3153
Non-Participation, 9th & 10th	18	68.0	6.17		

Table 1 (continued)

Variable	n	M*	S	F Value	p Level
Confidence of Knowing About HIV/AIDS (Form B)					
Participation Status					
Participation in Class	216	68.6	6.60		
Non-Participation, 8th	134	68.3	7.23	1.04	.3560
Non-Participation, 9th & 10th	18	66.2	7.50		
How Do You Feel Toward People with HIV/AIDS					
Participation Status					
Participation in Class	216	23.2	5.29		
Non-Participation, 8th	134	23.9	5.25	0.74	.4779
Non-Participation, 9th & 10th	18	23.2	6.06		
Your Attitudes About Peer Pressure					
Participation Status					
Participation in Class	216	21.4	3.60		
Non-Participation, 8th	134	21.1	3.64	2.05	.1297
Non-Participation, 9th & 10th	18	19.7	3.80		
Your Attitudes About Abstinence					
Participation Status					
Participation in Class	216	20.9	4.19		
Non-Participation, 8th	134	21.1	4.03	1.09	.3369
Non-Participation, 9th & 10th	18	19.6	3.48		

Table 1 (continued)

Variable	n	M*	S	F Value	p Level
Your Attitudes About Condom Use					
Participation Status					
Participation in Class	216	21.6[g]	2.82		
Non-Participation, 8th	134	20.7[h]	3.49	3.16	.0437
Non-Participation, 9th & 10th	18	20.8[h]	3.00		
Your Attitudes (Total) Toward HIV/AIDS					
Participation Status					
Participation in Class	216	63.9	8.98		
Non-Participation, 8th	134	62.9	9.38	1.68	.1882
Non-Participation, 9th & 10th	18	60.1	8.73		

* The larger the value the more knowledge or more desired attitude toward HIV/AIDS.

** The possible scores and theoretical mean when appropriate of each subscale were: Knowing About HIV/AIDS [(Form A & B), 0-15]; Confidence of Knowing About HIV/AIDS [(Form A & B), 15-75, 45]; How Do You Feel Toward People with HIV/AIDS (10-30, 20); Your Attitudes About Peer Pressure (5-25, 15); Your Attitudes About Abstinence (5-25, 15); Your Attitudes About Condom Use (5-25, 15); and, Your Attitudes (Total) Toward HIV/AIDS (15-75, 45).

[gh] Difference statistically significant at the .05 level.

One of the 9 p values was statistically significant at the .05 level; therefore, the null hypothesis for this comparison was rejected. The statistically significant comparison was for participation status in the Sex Respect class and the dependent variable attitudes about condom use. Information cited in Table 1 indicated students who participated in the Sex Respect class had a higher mean score for the dependent variable attitudes about condom use than students who did not participate in the Sex Respect class regardless of classification. The results indicated students who participated in the Sex Respect class reported a more desirable attitude about condom use.

It was hypothesized in composite null hypothesis number two that the differences among the mean Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes scores for 9th and 10th grade students who participated in the Sex Respect class dealing with HIV/AIDS according to gender, classification, and grade point average would not be statistically significant. Information pertaining to composite null hypothesis number two was presented in Table 2. The following information was cited in Table 2: variables, group sizes, means, standard deviations, F values, and p levels.

Table 2: A Comparison of Mean Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes Scores for 9th and 10th Grade Students Who Participated in the Sex Respect Class Dealing with HIV/AIDS According to Gender, Classification, and Grade Point Average Employing a Three-Way Analysis of Variance

Variable	n	M*	S	F Value	p Level
		Knowing About HIV/AIDS (Form A) **			
Gender (A)					
Male	119	13.1	2.17	0.00	.9728
Female	115	13.0	1.63		
Classification (B)					
9th grade	120	13.1	2.06	0.54	.4633
10th grade	114	13.0	1.77		
Grade Point Average (C)					
Above Average	115	13.5[g]	1.46		
Average	108	12.5[h]	2.24	7.28	.0009
Below Average	11	13.2	1.47		
		Interactions			
		A X B		1.24	.2659
		A X C		0.82	.4409
		B X C		0.28	.7540
		A X B X C		0.15	.6960

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
		Knowing About HIV/AIDS (Form B)			
Gender (A)					
Male	119	13.1	2.14	0.19	.6663
Female	115	13.2	2.06		
Classification (B)					
9th grade	120	13.3	2.19	0.76	.3849
10th grade	114	13.0	1.99		
Grade Point Average (C)					
Above Average	115	13.7[a]	1.68		
Average	108	12.6[b]	2.38	5.56	.0041
Below Average	11	13.2	1.78		
		Interactions			
		A X B		2.08	.1510
		A X C		0.04	.9648
		B X C		0.39	.6804
		A X B X C		2.51	.1147

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
Confidence of Knowing About HIV/AIDS (Form A)					
Gender (A)					
Male	119	67.8	7.82	0.04	.8480
Female	115	68.0	5.24		
Classification (B)					
9th grade	120	68.1	7.56	0.73	.3947
10th grade	114	67.7	5.59		
Grade Point Average (C)					
Above Average	115	69.4[a]	4.60		
Average	108	66.2[b]	8.12	5.47	.0048
Below Average	11	68.3	5.64		
Interactions					
A X B				2.67	.1673
A X C				0.79	.4545
B X C				0.39	.6754
A X B X C				0.14	.7118

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
Confidence of Knowing About HIV/AIDS (Form B)					
Gender (A)					
Male	119	68.4	7.26	0.10	.7576
Female	115	68.5	6.08		
Classification (B)					
9th grade	120	68.8	7.22	0.54	.4644
10th grade	114	68.1	6.10		
Grade Point Average (C)					
Above Average	115	69.8[g]	5.19		
Average	108	67.0[h]	7.87	4.06	.0186
Below Average	11	68.5	5.34		
Interactions					
A X B				1.92	.1673
A X C				0.30	.7439
B X C				0.35	.7062
A X B X C				2.17	.1424

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
How Do You Feel Toward People with HIV/AIDS					
Gender (A)					
Male	119	21.9[a]	5.43	4.71	.0311
Female	115	24.5[b]	4.91		
Classification (B)					
9th grade	120	23.1	5.26	0.83	.3623
10th grade	114	23.3	5.44		
Grade Point Average (C)					
Above Average	115	23.3	5.29		
Average	108	22.8	5.39	1.57	.2108
Below Average	11	25.3	5.22		
Interactions					
A X B				0.30	.5845
A X C				0.08	.9271
B X C				0.49	.6113
A X B X C				1.68	.1969

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
		Your Attitudes About Peer Pressure			
Gender (A)					
Male	119	20.0[a]	3.99	15.13	.0001
Female	115	22.7[b]	2.59		
Classification (B)					
9th grade	120	21.2	3.62	0.21	.6472
10th grade	114	22.7	3.67		
Grade Point Average (C)					
Above Average	115	22.2[a]	3.03		
Average	108	20.6	3.82	5.80	.0035
Below Average	11	19.9[b]	5.58		
		Interactions			
		A X B		0.23	.6306
		A X C		0.16	.8538
		B X C		0.30	.7445
		A X B X C		1.22	.2699

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
		Your Attitudes About Abstinence			
Gender (A)					
Male	119	19.5[a]	4.76	13.32	.0003
Female	115	22.1[b]	2.87		
Classification (B)					
9th grade	120	21.0[g]	4.21	6.79	.0098
10th grade	114	20.5[h]	4.09		
Grade Point Average (C)					
Above Average	115	22.0[a]	3.00		
Average	108	19.7[b]	4.59	11.99	.0001
Below Average	11	17.9	5.86		
		Interactions			
		A X B		0.05	.8321
		A X C		5.81	.0035
		B X C		5.13	.0066
		A X B X C		0.07	.7930

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
		Your Attitudes About Condom Use			
Gender (A)					
Male	119	20.9	3.09	2.23	.1367
Female	115	22.1	2.42		
Classification (B)					
9th grade	120	21.4	2.98	0.28	.5961
10th grade	114	21.6	2.68		
Grade Point Average (C)					
Above Average	115	22.1[a]	2.25		
Average	108	21.1	3.07	4.57	.0113
Below Average	11	19.8[b]	4.42		
		Interactions			
		A X B		0.14	.7052
		A X C		0.09	.9170
		B X C		0.73	.4836
		A X B X C		1.28	.2598

Table 2 (continued)

Variable	n	M*	S	F Value	p Level
Your Attitudes (Total) Toward HIV/AIDS					
Gender (A)					
Male	119	60.4[a]	10.13	14.23	.0002
Female	115	66.9[b]	6.15		
Classification (B)					
9th grade	120	63.6	9.53	2.41	.1223
10th grade	114	63.5	8.46		
Grade Point Average (C)					
Above Average	115	66.2[a]	6.39		
Average	108	61.3	9.89	10.54	.0001
Below Average	11	57.6[b]	14.26		
Interactions					
A X B				0.00	.9790
A X C				1.29	.2765
B X C				2.04	.1325
A X B X C				0.53	.4694

* The larger the value the more knowledge or more desired attitude toward HIV/AIDS.

** The possible scores and theoretical mean when appropriate of each subscale were: Knowing About HIV/AIDS [(Form A & B), 0-15]; Confidence of Knowing About HIV/AIDS [(Form A & B), 15-75, 45]; How Do You Feel Toward People with HIV/AIDS (10-30, 20); Your Attitudes About Peer Pressure (5-25, 15); Your Attitudes About Abstinence (5-25, 15); Your Attitudes About Condom Use (5-25, 15); and, Your Attitudes (Total) Toward HIV/AIDS (15-75, 45).

[ab] Difference statistically significant at the .05 level according to the Bonferroni (Dunn) t-test for means.

[gh] Difference statistically significant at the .05 level.

Fifteen of the 63 p values were statistically significant at the .05 level; therefore, the null hypotheses for these comparisons were rejected. Thirteen of the statistically significant p values were for main effects. The following main effects were statistically significant at the .05 level:

1) grade point average and the dependent variable Knowing About HIV/AIDS (Form A);
2) grade point average and the dependent variable Knowing About HIV/AIDS (Form B);
3) grade point average and the dependent variable Confidence of Knowing About HIV/AIDS (Form A);
4) grade point average and the dependent variable Confidence of Knowing About HIV/AIDS (Form B);
5) gender and the dependent variable How Do You Feel Toward People with HIV/AIDS;
6) gender and the dependent variable Your Attitudes About Peer Pressure;
7) grade point average and the dependent variable Your Attitudes About Peer Pressure;
8) gender and the dependent variable Your Attitudes About Abstinence;
9) classification and the dependent variable Your Attitudes About Abstinence;
10) grade point average and the dependent variable Your Attitudes About Abstinence;

11) grade point average and the dependent variable Your Attitudes About Condom Use;

12) gender and the dependent variable Your Attitudes (Total) Toward HIV/AIDS; and

13) grade point average and the dependent variable Your Attitudes (Total) Toward HIV/AIDS.

The result cited in Table 2 indicated the following main effects:

1) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Knowing About HIV/AIDS (Form A) than students with an average grade point;

2) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Knowing About HIV/AIDS (Form B) than students with an average grade point;

3) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Confidence of Knowing About HIV/AIDS (Form A) than students with an average grade point;

4) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable

Confidence of Knowing About HIV/AIDS (Form B) than students with an average grade point;

5) female students who participated in the Sex Respect class had a higher mean score for the dependent variable How Do You Feel Toward People with HIV/AIDS than male students;

6) female students who participated in the Sex Respect class had a higher mean score for the dependent variable Your Attitudes About Peer Pressure than male students;

7) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Your Attitudes About Peer Pressure than students with a below average grade point;

8) female students who participated in the Sex Respect class had a higher mean score for the dependent variable Your Attitudes About Abstinence than male students;

9) ninth grade students who participated in the Sex Respect class had a higher mean score for the dependent variable Your Attitudes About Abstinence than 10th-grade students;

10) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable

Your Attitudes About Abstinence than students with an average grade point;

11) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Your Attitudes About Condom Use than students with a below average grade point;

12) female students who participated in the Sex Respect class had a higher mean score for the dependent variable Your Attitudes (Total) Toward HIV/AIDS than male students; and

13) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Your Attitudes (Total) Toward HIV/AIDS than students with a below average grade point.

Two of the 15 significant comparisons were for interactions. The following interactions were statistically significant at the .05 level:

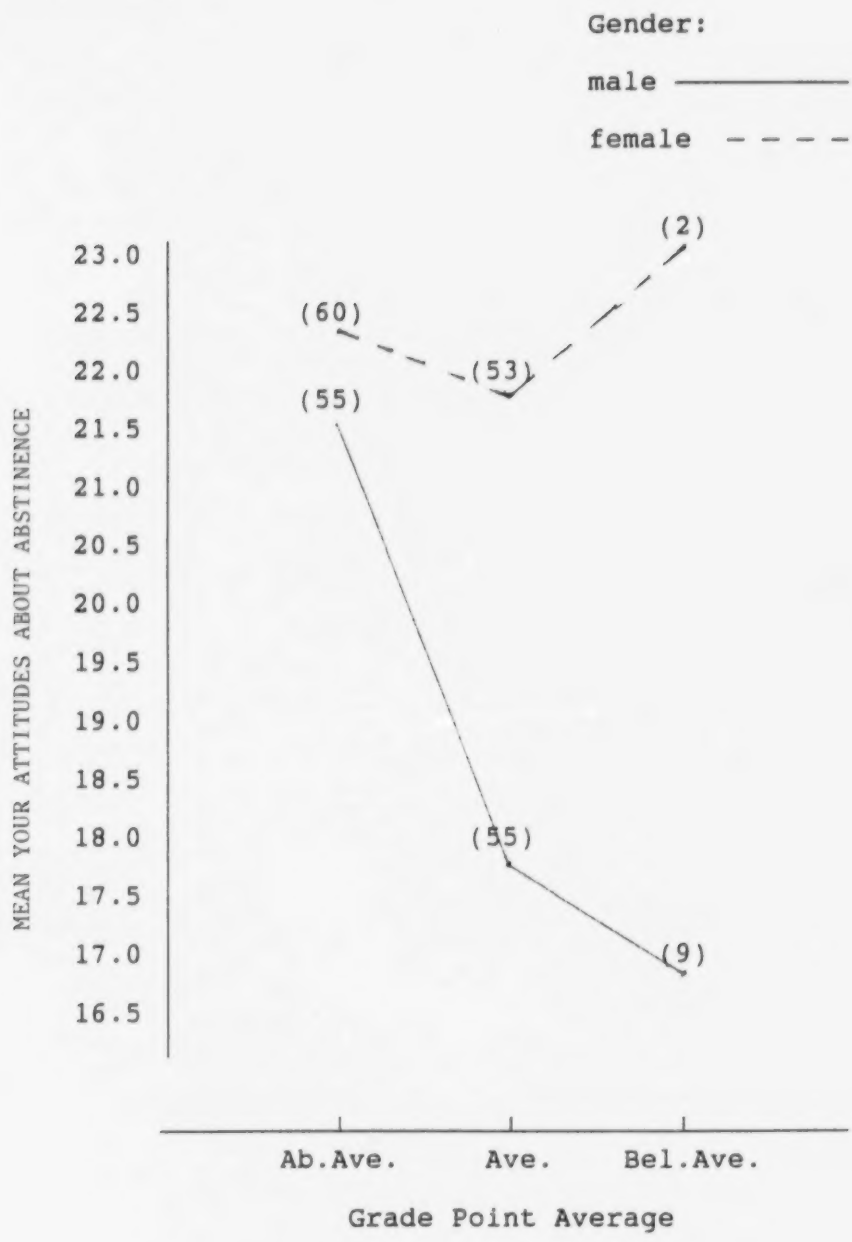
1) gender and grade point average for the dependent variable Your Attitudes About Abstinence; and,

2) classification and grade point average for the dependent variable Your Attitudes About Abstinence.

The interaction between gender and grade point

average for the dependent variable Your Attitudes About Abstinence was depicted in a profile plot. Figure 1 contains mean scores for Your Attitudes About Abstinence and curves for gender.

Figure 1: The Interaction Between Gender and Grade Point Average for the Dependent Variable Your Attitudes About Abstinence

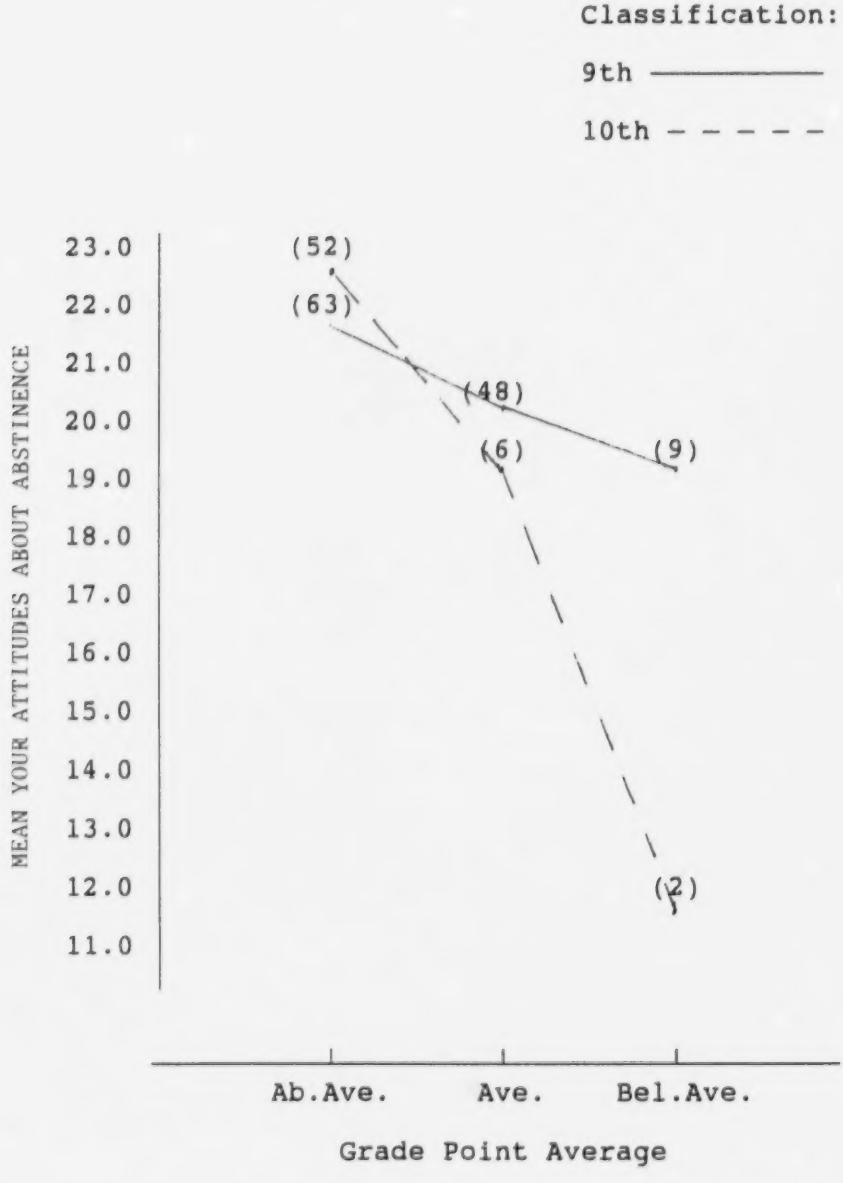


The interaction between gender and grade point average for the dependent variable Your Attitudes About Abstinence was ordinal. The information cited in Figure 1 indicated the following:

1) females regardless of grade point average had a numerically higher mean Your Attitudes About Abstinence score than males;
2) males with a below average grade point average had a numerically lower mean Your Attitudes About Abstinence score any other subgroup; and,
3) females with a below average grade point average had the numerically highest mean Your Attitudes About Abstinence score than any other subgroup.

The interaction between classification and grade point average for the dependent variable Your Attitudes About Abstinence was depicted in a profile plot. Figure 2 contains mean scores for Your Attitudes About Abstinence and curves for classification.

Figure 2: The Interaction Between Classification and Grade Point Average for the Dependent Variable Your Attitudes About Abstinence



The interaction between classification and grade point average for the dependent variable Your Attitudes About Abstinence was disordinal. The information cited in Figure 2 indicated the following:

1) 9th and 10th-grade students who had a below average grade point average had the numerically lowest mean Your Attitudes About Abstinence scores of any subgroup; and,
2) 9th and 10th-grade students who had an above average grade point average had the highest mean Your Attitudes About Abstinence scores of any subgroup.

Discussion

Summary

The purpose of the researcher was to investigate the knowledge and attitudes of 8th, 9th, and 10th grade students pertaining to HIV/AIDS. A total sample of 368 students was taken from the 8th, 9th and 10th grades of a southeastern Kansas school system. The 8th grade had a class total of 169 with 134 students completing the instruments, 66 males and 68 females. The 9th grade had a class total of 158 with 120 students completing the instruments, 65 males and 55 females. The 10th grade had a class total of 177 with 114 students, 54 males and 60 females, completing the instruments. The following independent variables were investigated: participation

in the Sex Respect class, gender, classification, and grade point average. The dependent variables were scores of the subscales assessing; Knowing About HIV and AIDS, How Would You Feel?, and Your Attitudes. Two composite null hypotheses were tested at the .05 level of significance. A one-way analysis of variance was employed for composite null hypothesis number one. A three-way analysis of variance (general linear model) was employed for composite null hypothesis number two.

A total of seventy-two comparisons were made. Of the 72 comparisons 36 were for main effects and 36 were for interactions. Of the 36 main effect comparisons, 14 were statistically significant at the .05 level. The 14 statistically significant main effects were for the following:

1) participation status in the Sex Respect class and the dependent variable Attitudes About Condom Use;
2) grade point average and the dependent variable Knowing About HIV/AIDS (Form A);
3) grade point average and the dependent variable Knowing About HIV/AIDS (Form B);
4) grade point average and the dependent variable Confidence of Knowing About HIV/AIDS (Form A);
5) grade point average and the dependent variable Confidence of Knowing About HIV/AIDS (Form B);

6) gender and the dependent variable How Do You Feel Toward People with HIV/AIDS;

7) gender and the dependent variable Your Attitudes About Peer Pressure;

8) grade point average and the dependent variable Your Attitudes About Peer Pressure;

9) gender and the dependent variable Your Attitudes About Abstinence;

10) classification and the dependent variable Your Attitudes About Abstinence;

11) grade point average and the dependent variable Your Attitudes About Abstinence;

12) grade point average and the dependent variable Your Attitudes About Condom Use;

13) gender and the dependent variable Your Attitudes (Total) Toward HIV/AIDS; and,

14) grade point average and the dependent variable Your Attitudes (Total) Toward HIV/AIDS.

The results for the statistically significant main effects indicated the following:

1) students who participated in the Sex Respect class had a higher mean score for the dependent variable Attitudes About Condom Use than students who did not participate in the Sex Respect class regardless of classification.

2) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Knowing About HIV/AIDS (Form A) than students with an average grade point;

3) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Knowing About HIV/AIDS (Form B) than students with an average grade point;

4) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Confidence of Knowing About HIV/AIDS (Form A) than students with an average grade point;

5) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Confidence of Knowing About HIV/AIDS (Form B) than students with an average grade point;

6) female students who participated in the Sex Respect class had a higher mean score for the dependent variable How Do You Feel Toward People with HIV/AIDS than male students;

7) female students who participated in the Sex Respect class had a higher mean score for the

dependent variable Your Attitudes About Peer Pressure than male students;

8) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Your Attitudes About Peer Pressure than students with a below average grade point;

9) female students who participated in the Sex Respect class had a higher mean score for the dependent variable Your Attitudes About Abstinence than male students;

10) ninth grade students who participated in the Sex Respect class had a higher mean score for the dependent variable Your Attitudes About Abstinence than 10th-grade students;

11) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Your Attitudes About Abstinence than students with an average grade point;

12) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Your Attitudes About Condom Use than students with a below average grade point;

13) female students who participated in the Sex

Respect class had a higher mean score for the dependent variable Your Attitudes (Total) Toward HIV/AIDS than male students; and

14) students who participated in the Sex Respect class with an above average grade point had a higher mean score for the dependent variable Your Attitudes (Total) Toward HIV/AIDS than students with a below average grade point.

Of the 36 interactions, 2 were statistically significant at the .05 level. The two statistically significant interactions were:

1) gender and grade point average for the dependent variable Your Attitudes About Abstinence; and
2) classification and grade point average for the dependent variable Your Attitudes About Abstinence.

Generalizations

The results of the present study appeared to support the following generalizations:

1) students who participated in the Sex Respect class reported a more desirable attitude about condom use than students who did not participate in the class regardless of classification;
2) students who participated in the Sex Respect

class with an above average grade point reported more knowledge of HIV/AIDS than students with an average grade point;

3) students who participated in the Sex Respect class with an above average grade point showed a higher level of confidence concerning knowledge of HIV/AIDS than students with an average grade point;

4) female students who participated in the Sex Respect class had a more desirable attitude toward people with HIV/AIDS than male students;

5) female students who participated in the Sex Respect class had a more desirable attitude about peer pressure concerning HIV/AIDS than male students;

6) students who participated in the Sex Respect class with an above average grade point had a more desirable attitude about peer pressure concerning HIV/AIDS than students with a below average grade point;

7) female students who participated in the Sex Respect class had a more desirable attitude about abstinence concerning HIV/AIDS than male students;

8) ninth grade students who participated in the

Sex Respect class had a more desirable attitude about abstinence than 10th-grade students;

9) students who participated in the Sex Respect class with an above average grade point had a more desirable attitude about abstinence concerning HIV/AIDS than students with an average grade point;

10) students who participated in the Sex Respect class with an above average grade point had a more desirable attitude about condom use concerning HIV/AIDS than students with a below average grade point;

11) female students who participated in the Sex Respect class had a more desirable attitude toward HIV/AIDS than male students;

12) students who participated in the Sex Respect class with an above average grade point had a more desirable attitude toward HIV/AIDS than students with a below average grade point;

13) an interaction between gender and grade point average for Attitudes About Abstinence; and

14) an interaction between classification and grade point average for Attitudes About Abstinence.

Recommendations

The results of the present study appeared to support the following recommendations:

1. the study should be replicated with a random sample;
2. the study should be replicated using a stratified sample with stratification according to schools in the state of Kansas;
3. the study should be replicated employing a random sample with greater economic, race and cultural variations;
4. the study should be replicated employing older and younger students;
5. the study should be replicated employing a random sample pertaining to church attendance; and
6. the study should be replicated employing a random sample pertaining to community attitudes, parent attitudes, teacher attitudes, and school administrative attitudes.

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Appendix A

Demographic Instrument

DEMOGRAPHIC SURVEY

Instructions: Circle or Check the response that applies to you.

Please **DO NOT** put your name on this survey so that personal confidentiality can be maintained.

Gender

( ) Male
( ) Female

Grade

( ) 8th
( ) 9th
( ) 10th

Approximate overall grade average

( ) above average student
( ) average student
( ) below average student

Have you taken the Sex Respect class offered during the 9th grade year at Fort Scott High School?

( ) yes
( ) no
( ) other

To the best of your knowledge, what letter grade did you receive in your Sex Education Class?

( ) A
( ) B
( ) C
( ) D
( ) Pass (Satisfactory)
( ) Failed (Unsatisfactory)
( ) no grade

Do you take advantage of the Free and Reduced meal program offered by this school?

( ) yes
( ) no

How informed do you consider yourself on the issue of HIV/ AIDS?

( ) well informed
( ) moderately informed
( ) not well informed

From what source has most of your information about HIV/AIDS come from?

( ) parents
( ) teachers, health care workers
( ) magazines, newspapers, pamphlets, (reading material)
( ) Television, radio
( ) Required class

Appendix B

HIV/AIDS Knowledge and Attitude Instrument

KNOWING ABOUT HIV AND AIDS

DO NOT put your name on this survey. Your answers will be kept secret. No one will know how you answered these questions.

DIRECTIONS: Read each question. Carefully check the one answer that fits best.

FORM A	I am sure it's true	I think it's true	I don't know	I think it's false	I am sure it's false
1. Hugging a person with AIDS is a way to get HIV.	( )	( )	( )	( )	( )
2. The virus that causes AIDS is found in blood.	( )	( )	( )	( )	( )
3. You do not get HIV by using a public sink to wash your hands.	( )	( )	( )	( )	( )
4. Teenagers can get AIDS.	( )	( )	( )	( )	( )
5. Eating food made by a person with AIDS can give you HIV.	( )	( )	( )	( )	( )
6. You can get HIV by using the same telephone as a person with AIDS.	( )	( )	( )	( )	( )
7. You can tell whether people are infected with HIV by looking at them.	( )	( )	( )	( )	( )
8. Having sexual intercourse is a way to get HIV.	( )	( )	( )	( )	( )
9. You do not get HIV by swimming in a public swimming pool.	( )	( )	( )	( )	( )
10. Sharing needles to take steroids is one way to get HIV.	( )	( )	( )	( )	( )
11. Only boys and men get HIV	( )	( )	( )	( )	( )
12. HIV is not spread by fleabites.	( )	( )	( )	( )	( )

FORM A cont.	I am sure it's true	I think it's true	I don't know	I think it's false	I am sure it's false
13. Dancing with a person who has AIDS is a way to get HIV.	( )	( )	( )	( )	( )
14. As soon as people get HIV, they begin to feel sick.	( )	( )	( )	( )	( )
15. Condoms are 100% effective in preventing HIV.	( )	( )	( )	( )	( )

KNOWING ABOUT HIV AND AIDS

FORM B	I am sure it's true	I think it's true	I don't know	I think it's false	I am sure it's false
1. You can get HIV from sitting next to a person with AIDS.	( )	( )	( )	( )	( )
2. People who have HIV usually look very thin and sickly.	( )	( )	( )	( )	( )
3. A person can get HIV by sharing drug needles.	( )	( )	( )	( )	( )
4. No one has ever gotten HIV by shaking hands with a person who has AIDS.	( )	( )	( )	( )	( )
5. Girls and women <u>do not</u> get HIV.	( )	( )	( )	( )	( )
6. A person can get HIV by using a public toilet.	( )	( )	( )	( )	( )
7. A person can have HIV and feel healthy.	( )	( )	( )	( )	( )
8. You can get HIV by drinking from a water fountain.	( )	( )	( )	( )	( )
9. Using condoms helps protect against HIV.	( )	( )	( )	( )	( )

FORM B cont.	I am sure it's true	I think it's true	I don't know	I think it's false	I am sure it's false
10. No matter how old people are, they can get HIV.	( )	( )	( )	( )	( )
11. Sharing a soft drink with a person who has AIDS is one way to get HIV.	( )	( )	( )	( )	( )
12. At this time, there is no cure for AIDS.	( )	( )	( )	( )	( )
13. If you touch a person with AIDS, you can get HIV.	( )	( )	( )	( )	( )
14. You can get HIV if a person with AIDS sneezes on you.	( )	( )	( )	( )	( )
15. Children can be born with HIV if their mothers have HIV.	( )	( )	( )	( )	( )

HOW WOULD YOU FEEL?

Assessment Focus: Attitudes toward people with AIDS.

	Completely Comfortable	Somewhat Comfortable	Not at All Comfortable
1. How comfortable would you feel being in the same classroom with someone who has AIDS?	C	S	N
2. How comfortable would you feel eating in the same lunchroom with someone who has AIDS?	C	S	N
3. How comfortable would you feel hugging a close friend who has AIDS?	C	S	N
4. How comfortable would you feel swimming in a pool with someone who has AIDS?	C	S	N
5. How comfortable would you feel being around a classmate who you think might have AIDS?	C	S	N

HWYF-cont.	Completely Comfortable	Somewhat Comfortable	Not at All Comfortable
6. How comfortable would you feel staying friends with someone who has AIDS?	C	S	N
7. How comfortable would you feel kissing a good friend or relative who has AIDS?	C	S	N
8. How comfortable would you feel having a teacher who has AIDS?	C	S	N
9. How comfortable would you feel making friends with someone who has AIDS?	C	S	N
10. How comfortable would you feel playing sports with someone who has AIDS?	C	S	N

YOUR ATTITUDES

Assessment Focus: Three attitudinal dimensions related to HIV-risk behaviors.

	Strongly Agree SA	Agree A	Not Sure NS	Disagree D	Strongly Agree SD
1. If your friends want you to do something that you think isn't safe, you should refuse.	SA	A	NS	D	SD
2. People who don't have sex before they get married are strange.	SA	A	NS	D	SD
3. It is really stupid for teenagers to have sex without using a condom.	SA	A	NS	D	SD
4. To keep your friends, you should go along with most things your friends want you to do.	SA	A	NS	D	SD
5. It's okay not to have sex while you are a teenager.	SA	A	NS	D	SD

YA-cont.	Strongly Agree SA	Agree A	Not Sure NS	Disagree D	Strongly Agree SD
6. People who use condoms during sex don't trust the person they're with.	SA	A	NS	D	SD
7. Teenagers should learn how to resist pressures from their friends.	SA	A	NS	D	SD
8. Having sex when you are a teenager could be a big mistake.	SA	A	NS	D	SD
9. It's okay for a teenager to have sex without a condom if the teenager knows his/her partner well.	SA	A	NS	D	SD
10. It may be worth doing some dangerous things in order to be popular.	SA	A	NS	D	SD
11. It's a good idea for teenagers to choose not to have sex.	SA	A	NS	D	SD
12. It's embarrassing to talk about condoms.	SA	A	NS	D	SD
13. Teenagers should resist pressure from their friends to have sex.	SA	A	NS	D	SD
14. Teenagers who don't have sex are wasting their teen years.	SA	A	NS	D	SD
15. If people think they might have sex during a date, they should carry a condom.	SA	A	NS	D	SD

Appendix C

HIV/AIDS Instrument Administration Instructions

TEST ADMINISTRATION INSTRUCTIONS

Please read and follow these instructions carefully.

1. Hand out the survey face down.

PLEASE READ THE FOLLOWING

2. This survey is being conducted to gather information to complete a thesis by R. Warren Sager, Elementary Counselor at Winfield Scott.

3. Please DO NOT put your name on this survey so that personal confidentiality can be maintained. This survey is anonymous and the information gathered will be used to establish group data.

4. To maintain your privacy, I will not be walking around the room while you are completing the survey.

5. Turn over your survey and I will help you fill out the information ask for on the front and back of the top page.

NOTE * Accuracy is important and hopefully I have addressed the main questions in my explanation.

Gender - male or female

Grade - in school

Grade Average If you make mostly A's and B's, mark - Above Average. If you make mostly C's, mark - Average. If you make mostly D's or below, mark - Below Average.

Sex Respect Class - This is a specific question, only 9th and 10th graders should be able to answer this question -yes-. Transfer students, 8th graders, and other students who have not taken the class are to answer -no.

Letter grade in class - only students who have NOT (answered none in above question) taken a sex education class dealing with HIV/AIDS should answer this question -no grade.

Free and Reduced Meals - answer to the best of their knowledge. I am asking this to establish an economic variable for the data.

Informed of HIV/AIDS - well, moderately, or not well informed

Source - This should be from the ONE source they learned the most about HIV/AIDS.

READ THE FOLLOWING

6. Questions for the rest of the survey are found on the FRONT and BACK. Read each question and carefully check or circle the one answer that fits best.

7. When you have finished the survey bring it to the front of the room and place it on the desk FACE DOWN. Thank you for helping with this survey.

Appendix D

Letter to School Administration

March 29, 1993

Mr. Fred Campbell, Supt. of Schools, USD #
5th and Main
, KS 66701

Mr. Campbell;

I would like to request permission to survey the eighth grade students at Middle School and the ninth and tenth grade students at High School for the purpose of evaluating the student's knowledge and attitudes concerning the HIV virus and AIDS. This survey should help to ascertain the knowledge gained about HIV and AIDS through taking the Sex Education class during the ninth grade year.

This survey will be conducted as a partial requirement for completing my Master's Degree at Fort Hays State University.

Sincerely,

R. Warren Sager
Elementary Counselor,

Appendix E

Letter from School Administration

July 14, 1993

Mr. Warren Sager
PO Box 1182
Fort Scott, KS 66701

Dear Warren:

This is to confirm that the former superintendent, Mr. Campbell, and the board are aware of a survey you conducted this past school year. We also understand that the results of this survey will be used in your thesis with our school name not being implicated.

Sincerely,

Bill Sailors
Superintendent

BS:csb